SEQUENCE LISTING

%110> Morphotek, Inc. Grasso, Luigi Kline, J. Bradford Nicolaides, Nicholas C. Sass, Philip M. ₹120> Methods for Generating Enhanced Antibody-Producing Cell Lines with Improved Growth Characteristics <130> MOR-0241/HD0002 US <140> 10/624,631 <141> 2003-07-21 60/397,027 <150> <151> 2002-07-19 <160> 34 <170> PatentIn version 3.1 <210> <211> 1302 <212> DNA <213> Mus musculus <400> atgactccct ccatctcatg gggtctactg cttctggcag gcctgtgttg cctqqtcccc 60 agctttctgg ctgaggatgt tcaggagaca gacacctccc agaaggatca gtccccagcc 120 tcccatgaga tcgctacaaa cctgggagac tttgcaatca gcctataccg ggagctggtc 180 catcagtcca acacttccaa catcttcttc tccccagtga gcattgccac agcctttgct 240 gtagtcaggt tgtgaaggtt gtagaagaag aggggtcact cgtaacggtg tcggaaacga 300 atgctctccc tagggagcaa gggtgacact cacacgcaga tcctagaggg cctgcagttc 360 aacctcacac aaacatcgga ggctgacatc cacaagtcct tccaacacct cctccaaacc 420 ctcaacagac cagacagtga gctgcagttg agcacaggca atggcctctt tgtcaacaat 480 gacctgaagc tggtggagaa gtttctggaa gaggccaaga accattatca ggcagaagtc 540 ttctctgtca actttgcaga gtcagaggag gccaagaaag tgattaatga ttttgtggag 600 aagggaaccc aaggaaagat agttgaggca gtgaaagaac tggaccaaga cacagttttc 660 gccctgggca attacattct ttttaaaggc aaatggaaga agccattcga tcctgagaac 720 actgaagaag ctgagttcca cgtggacaag tccaccacgg tgaaggtgcc catgatgacc 780

840

900

960

1020

1080

ctctcgggca tgcttgatgt gcaccattgc agcacactct ccaqctgggt gctgctgatg

gattacgcgg gcaacgccag tgctgtcttc ctcctgcccg aagatgggaa gatgcagcat

ctggagcaaa ctctcaacaa ggagctcatc tctaagatcc tgctaaacaa gcgcagaagg

ttagtccaga tccatatccc cagactgtcc atctctggag aatataactt gaagacactc

atgagtccac tgggcatcac ccggatcttc aacaatgggg ctgacctctc cggaatcaca

gaggag	aatg	ctcccctgaa	gctcagcaag	gctgtgcata	aggctgtgct	gaccatcgat	1140
gagaca	ggaa	cagaagctgc	agcagctaca	gtctttgaag	ccgttcctat	gtctatgccc	1200
cctatc	ctgc	gcttcgacca	ccctttcctt	tttataatat	ttgaagaaca	cactcagagc	1260
cccatc	tttg	tgggaaaagt	ggtagatccc	acacataaat	ga		1302
<210> <211> <212> <213>	2 297 DNA Mus	musculus					
<400> atgcct	2 acag	agactgagag	atgcattgag	tccctgattg	ctgttttcca	aaagtacagc	60
gggaag	gatg	gaaacaacac	tcaactctcc	aaaactgaat	tcctttcctt	catgaacaca	120
gagctg	gctg	ccttcacaaa	gaaccagaag	gatcctggtg	tccttgaccg	catgatgaag	180
aagctg	gacc	tcaactgtga	cgggcagcta	gatttccaag	agtttctcaa	cctcattggt	240
ggctta	gcta	tagcgtgcca	tgattctttc	atccaaactt	cccagaagcg	aatctaa	297
<210> <211> <212> <213>	3 20 DNA Art	ificial					
<220> <223>	Olig	gonucleotide	e Primer				
<400> ttgaag	3 aagc	cattcgatcc					20
<210> <211> <212> <213>	4 20 DNA Arti	ificial					
<220> <223>	olig	gonucleotide	e Primer				
<400> tgaaaa	4 ggaa	agggtggtcg					20
<210> <211> <212> <213>	5 20 DNA Arti	ficial					
<220> <223>	olig	gonucleotide	e Primer				
<400> atgcct	5 acag	agactgagag					20
<210> <211> <212>	6 22 DNA						

```
<213> Artificial
<220>
<223> Oligonucleotide Primer
<400> 6
gattcgcttc tgggaagttt gg
                                                                      22
<210>
      1378
<211>
<212>
      DNA
      Mesocricetus auratus
<213>
<400> 7
atcagctctg ggacaggcaa gctaaaaatg aagccctcca tctcatgggg gatcctgctg
                                                                      60
ctggcaggcc tgtgctgcct ggtccccagc ttcctggctg aggatgccca ggagacagat
                                                                     120
gcctccaagc aggatcagga gcaccaagcc tgctgtaaga tcgctccaaa tttggcagac
                                                                     180
ttttccttca acctataccg ggagctggtc catcagtcca atacgaccaa catcttcttc
                                                                     240
tctcctgtga gcattgccac agcctttgct atgctctctc tgggcaccaa gggtgtcact
                                                                      300
cacacccaga ttctagaggg cctggggttc aacctcacag aaatagccga ggctgaggtc
                                                                     360
cacaaaggct tccataacct cctccagacc ttcaacaggc cagacaatga gcttcagctg
                                                                     420
accacaggca atggcctgtt catccacaac aatctaaagc tggtggataa gttcctggaa
                                                                     480
gaggtcaaga acgattacca ctcqqaaqcc ttctctqtca acttcacaga ctcaqaagag
                                                                      540
gccaagaaag tgatcaacgg ttttgtggag aagggaaccc aaggaaagat agttgattta
                                                                     600
gtgaaggacc ttgacaaaga cacagttctt gccctggtga attacatttt ctttaaaggc
                                                                     660 ·
aagtggaaga agcccttcga tgcagacaac actgaggaag ctgacttcca cgtggacaag
                                                                     720
accaccacgg tgaaggtgcc catgatgagc cgcctgggca tgtttgacgt gcactatgtt
                                                                     780
agcactctgt ccagctgggt gctgctgatg gattacctgg gcaacgccac tgccatcttc
                                                                     840
atcctacctg atgatggcaa gatgcagcat ctggagcaaa ctctcaacaa ggaaatcatt
                                                                     900
ggcaagttcc tgaaggacag acacacaagg tcagccaatg tacacttccc caaactgtcc
                                                                     960
atctctggaa cctataactt gaagacagcc ctggatccgc tgggcatcac ccaggtcttc
                                                                    1020
agcaatgggg ccgacctttc tgggatcaca gaggatgttc ccctgaagct tggcaaggct
                                                                    1080
qtgcataagg ctgtgctgac catcgatgag agagggacgg aagctgcagg ggccacattt
                                                                    1140
atggaaatca tccccatgtc tgtqccccct qaqqtqaact ttaacagccc tttcattqcc
                                                                    1200
ataatatatg atagacagac agcaaagagc cccctctttg tgggaaaagt ggtggatccc
                                                                    1260
acacgttaat cacaattctc agtcagatgt catcttttct ggattgggtc ccctccccag
                                                                    1320
tgacattaaa cacaggctgt cctggcccac ccatgcctga gtgcttctgc aaatgctc
                                                                    1378
```

<210> 8 <211> 1345 <212> DNA

<213> Homo sapiens

<400> 8 acatgtaatc gacaatgccg tcttctgtct cgtggggcat cctcctggca ggcctgtgct	60
gcctggtccc tgtctccctg gctgaggatc cccagggaga tgctgcccag aagacagata	120
catcccacca tgatcaggat cacccaacct tcaacaagat cacccccaac ctggctgagt	180
tcgccttcag cctataccgc cagctggcac accagtccaa cagcaccaat atcttcttct	240
ccccagtgag catcgctaca gcctttgcaa tgctctccct ggggaccaag gctgacactc	300
acgatgaaat cctggagggc ctgaatttca acctcacgga gattccggag gctcagatcc	360
atgaaggctt ccaggaactc ctccgtaccc taaaccagcc agacagccag ctccagctga	420
ccaccggcaa tggcctgttc ctcagcgagg gcctgaagct agtggataag tttttggagg	480
atgttaaaaa gttgtaccac tcagaagcct tcactgtcaa cttcggggat cacgaagagg	540
ccaagaaaca gatcaacgat tacgtggaga agggtactca agggaaaatt gtggatttgg	600
tcaaggagct tgacagagac acagtttttg ctctggtgaa ttacatcttc tttaaaggca	660
aatgggagag accttttgaa gtcaaggaca ccgaggacga ggacttccac gtggaccagg	720
tgaccaccgt gaaggtccct atgatgaagc gtttaggcat gtttaacatc cagcactgta	780
agaagctgtc cagctgggta ctgctaatga aatacctggg caatgccacc gccatcttct	840
tcctacctga tgaggggaaa ctacagcacc tggaaaatga actcacccac gatatcatca	900
ccaagttcct ggaaaatgaa gacagaaggt ctgccagctt acatttaccc aaactgtcca	960
ttactggaac ctatgatctg aagagcgtcc tgggtcaact gggcatcact aaggtcttca	1020
gcaatggggc tgacctctcc ggggtcacag aggaggcacc cctgaagctc tccaaggccg	1080
tgcataaggc tgtgctgacc atcgacgaga aggggactga agctgctggg gccatgtttt	1140
tagaggccat accaatgtct atcccccag aggtcaagtt caacaaaccc tttgtcttct	1200
taatgattga acaaaatacc aagtctcccc tcttcatggg aaaagtggtg aatcccaccc	1260
aaaaataact gcctctcgct cctcaacccc tcccctccat ccctggcccc ctccctggat	1320
gacattaaag aagggttgag ctgga	1345
<210> 9 <211> 1353	
<212> DNA <213> Oryctolagus cuniculus	
<400> 9	
atatcatctc cccatctttg ttcctgccac cagccctggg cactgagtcc tggacaatgc	60
caccetetgt etetegggeg etecteetge tggeeggeet gggetgeetg etgeeegget	120
tcctggccga cgaggcccag gagacagccg tttccagcca tgagcaggac cgcccagcct	180
gccacaggat cgccccgagc ctggttgagt tcgccctcag cctgtaccgg gaggtggccc	240

300

gcgagtccaa caccaccaat atcttcttct ccccggtgag catcgccctg gcctttgcca

tgctctccct gggggccaag ggggacaccc acacccaggt cctggagggc ctgaag	gttca 360
acctcacgga gacggccgag gcccagatcc acgacggctt ccggcacctc ctgca	caccg 420
tcaacaggcc cgacagcgag ctgcagctgg ccgccggcaa cgccctggtc gtcag	cgaga 480
acctgaagct gcagcacaag tttctagaag acgccaagaa cctgtaccag tccga	agcct 540
tcctcgtcga cttcagggac cccgagcagg ccaagaccaa gatcaacagc cacgt	ggaga 600
aggggacccg agggaagatc gtggacttgg tgcaagagct ggacgcccgc acact	gcttg 660
ccctggtgaa ctacgttttc ttcaaaggga agtgggagaa gcccttcgag cccga	gaaca 720
ccaaggaaga ggacttccac gtggacgcca cgaccacggt gcgggtgccc atgat	gtcgc 780
gcctgggcat gtatgtgatg ttccactgta gcacgctggc cagcacggtc gtgctg	gatgg 840
actacaaggg caacgccacg gccctcttcc tcctgcccga cgaggggaag ctgcag	gcacc 900
tggagcacac gctcaccacg gagctcatcg ccaagttcct ggcaaaaagc agctt	caggt 960
ctgtcacggt ccgttttccc aaactctcca tttctggaac ctacgacctg aaacc	cctcc 1020
tgggcaaact gggcatcacc caggtcttca gcgacaacgc ggacctctcg gggat	cacgg 1080
agcaggaagc tctgaaggtg tcccaggccc tgcacaaggt ggtgctgacc atcga	cgaga 1140
gagggaccga agctgccggg gccacatttg tggaatacgt actctattct atgcc	ccaaa 1200
gggtcacctt tgacaggccc ttcctctttg tcatctacag tcatgaggtc aagag	tcccc 1260
tcttcgtggg gaaagtggtg gatcccaccc aacactaaga ccccaccgca gcaca	ttaaa 1320
gctctgagct gccctcccag ggggcagccc ctc	1353
<210> 10 <211> 1306 <212> DNA <213> Rattus norvegicus	
<pre><400> 10 gctccatctc acgggggctc ctgcttctgg cagccctgtg ttgcctggcc cccag</pre>	cttcc 60
tggctgagga tgcccaggaa accgatacct cccagcagga ccagagtcca accta	
agatttcttc aaacctggca gactttgcct tcagcctata ccgggagctg gtcca	
ccaatacatc caacatcttc ttctccccta tgagcatcac cacagccttc gccatg	
ccctggggag caagggtgac actcgcaaac agattctaga gggcctggag ttcaac	
cacagatacc tgaggctgac atccacaagg ccttccatca cctcctccaa actct	caaca 360
ggccagacag tgagctgcag ctgaacacag gcaatggcct ctttgtcaac aagaa	tctga 420
agctggtgga gaagtttctg gaagaggtca agaacaatta ccactcagaa gcctto	ctctg 480
tcaactttgc cgactcagaa gaggctaaga aagtaattaa tgattatgta gagaag	gggaa 540
cccaaggaaa gatagttgat ttgatgaaac agctggacga agacacggtt tttgc	cctgg 600
tgaattacat tttctttaaa ggcaagtgga agaggccatt caatcctgag cacac	taggg 660

atgctgactt tcacgtagac aagtccacca	cagtgaaggt	gcccatgatg	aaccgcctgg	720
gcatgtttga catgcactat tgcagcacac	tgtccagctg	ggtgctgatg	atggattacc	780
tgggcaacgc cactgccatc ttcctcctgc	ccgatgatgg	caagatgcag	catctggagc	840
aaactctcac caaggatctc atttcccggt	tcctgctaaa	caggcaaaca	aggtcagcca	900
ttctctactt ccccaaactg tccatctctg	gaacctataa	cttgaagaca	ctcctgagct	960
cactgggcat cacccgggtc ttcaacaatg	atgctgatct	ctctggaatc	acagaggatg	1020
ccccctgaa gcttagccag gctgtgcata	aggctgtgct	gaccttagat	gagagggaa	1080
cagaggctgc aggagccact gtggtggagg	ccgtccccat	gtctctgccc	cctcaagtga	1140
agttcgacca ccctttcatt ttcatgatag	ttgaatcaga	aactcagagc	cccctctttg	1200
tgggaaaagt gatagatccc acacgttaat	cactgtcctc	agaagtcaca	tcccttctgg	1260
atcgggtccc cttcctaata atattaaact	caggctggcc	tggcct		1306
<210> 11 <211> 1334 <212> DNA <213> Ovis aries <400> 11				
cgataatggc actctccatc acacggggcc	ttctgctgct	ggcagccctg	tgctgcctgg	60
ccccacctc cctggctggg gttctccaag	gacacgctgt	ccaagagaca	gatgatacag	120
cccaccagga agcagcctgc cacaagattg	ccccaacct	ggccaacttt	gccttcagca	180
tataccacaa gttggcccat cagtccaata	ccagcaacat	cttcttctcc.	ccagtgagca	240
tcgcttcagc ctttgcgatg ctttccctgg	gagccaaggg	caacactcac	actgagatcc	300
tggagggcct gggtttcaac ctcactgagc	tagcagaggc	tgagatccac	aaaggctttc	360
agcatcttct ccacaccctc aaccagccaa	accaccagct	gcaactgacc	accggcaatg	420
gtctgttcat caatgagagt gcaaagctag	ttgatacgtt	tttggaggat	gtcaagaatc	480
tgcatcactc caaagccttc tccatcaact	tcagggatgc	tgaggaggcc	aagaagaaga	540
tcaatgatta tgtagagaag ggaagccatg	gaaaaattgt	ggatttggta	aaggatcttg	600
accaagacac agtttttgct ctggtcaatt	acatatcctt	taaaggaaaa	tgggagaagc	660
ccttcgaggt cgagcacacc acggagaggg	acttccacgt	gaatgagcaa	accaccgtga	720
aggtgcccat gatgaaccgc ctgggcatgt	ttgacctcca	ctactgtgac	aagctcgcca	780
gctgggtgct gctgctggac tacgtgggca	acgtcaccgc	ctgcttcatc	ctgcccgacc	840
tcgggaaact gcagcagctg gaagacaagc	tcaacaacga	actcctcgcc	aagttcctgg	900
aaaagaaata tgcaagttct gccaatttac	atttgcccaa	actgtccatt	tctgaaacgt	960
acgatctgaa aactgtcctg ggtgaactgg	gcatcaacag	ggtcttcagc	aacggggctg	1020
acctctcagg gatcaccgag gaacagcctc	tgatggtgtc	caaggcgctc	cacaaggctg	1080

cactaricat tartararra agarcarra ctactagaga cacatteta arractator	1140
cgctgaccat tgatgagaaa gggacagaag ctgctggggc cacgtttctg gaagctatcc	
ccatgtccct tcccccagac gtcgagttca acagaccctt cctctgcatc ctctacgaca	1200
gaaacaccaa gtctcccctc ttcgtgggaa aggtggtgaa tcccacccaa gcctaagtgc	1260
ctctcggggt tcagctttcc cctcccaggc caggtcccct tcttccctcc atggcattaa	1320
aggataactg acct	1334
<210> 12 <211> 1288 <212> DNA <213> Artificial	
<220> <223> Consensus Sequence	
<400> 12 gaaatgcccc tccatctcat gggggctcct gctgctggca ggcctgtgct gcctggtccc	60
cagcttcctg gctgaggatg cccaggagac agatacctcc cagcaggatc aggaccccag	120
cctgccataa gatcgctcca aacctggcag actttgcctt cagcctatac cgggagctgg	180
tccatcagtc caataccacc aacatcttct tctccccagt gagcatcgcc acagcctttg	240
catgctctcc ctggggacca agggtgacac tcacaccaga tcctggaggg cctggagttc	300
aacctcacag agatagcgag gctgagatcc acaaaggctt ccagcacctc ctccaaccct	360
caacaggcca gacagtgagc tgcagctgac caccggcaat ggcctgttcg tcaacgagaa	420
tctgaagctg gtggataagt ttctggaaga ggtcaagaac ctttaccact cagaagcctt	480
ctctgtcaac ttcggggact cagaggaggc caagaaagtg atcaatgatt atgtggagaa	540
gggaacccaa ggaaagatag ttgatttggt gaaggagctt gacaagacac agtttttgcc	600
ctggtgaatt acattttctt taaaggcaag tgggagaagc ccttcgatgc cgagaacact	660
gaggaagctg acttccacgt ggacaagcca ccacggtgaa ggtgcccatg atgaaccgcc	720
tgggcatgtt tgacatgcac tattgtagca cgctgtccag ctgggtgctg ctgatggatt	780
acctgggcaa cgccactgcc atcttcctcc tgcccgatga tgggaagctg cagcatctgg	840
agcaaactct caccaaggac tcatcgccaa gttcctggaa aacagacaca caaggtctgc	900
caattccatt tccccaaact gtccatttct ggaacctatg acttgaagac agtcctgggt	960
ccactgggca tcacccgggt cttcagcaat ggggctgacc tctcgggatc acagaggatg	1020
cccctgaag cttgcaaggc tgtgcataag gctgtgctga ccatcgatga gagagggaca	1080
gaagctgcag gggccacatt ttggaagccg tccccatgtc tatgccccct gaggtgaagt	1140
tcgacagccc tttccttttc ataatatttg aaaacagacc aagagtcccc tctttgtggg	1200
aaaagtggtg gatcccaccc ataataactg cctctcggac atccatccct tcgccggtcc	1260
cctcccatg acattaaagg ctgcctgg	1288

<210> 13 <211> 183 <212> DNA <213> Oryctolagus cuniculus	
<400> 13 ttcgccgtgt tccagaagta cgctggaaag gatgggcaca gcgtcaccct ctccaagacc 6	0
gagttcctgt cctttatgaa cacagagctg gctgccttca caaagaacca gaaggacccc 12	0
ggcgtcctcg accgcatgat gaagaaattg gacctcaaca gtgacgggca gctggatttc 18	0
caa 18	3
<210> 14 <211> 428 <212> DNA <213> Canis familiaris	
<400> 14	0
gcacgaggtc tctgattgct gttttccaga agtttgctgg aaaggagggt aacaactgca 6 cactctccaa gacagagttc ctaaccttca tgaatacaga actggctgcc ttcacaaaga 12	
accagaagga ccctggtgtc cttgaccgca tgatgaagaa actggacctc aactctgatg 18	
ggcagctgga tttccaagaa tttcttaatc ttattggtgg catggccata gcttgccatg 24	
actcctttac aaggtctccc catttccgga agtaaatcgg aggggttcct gggcctggcc 30	
tccagaccac ctctttcctt caaaacagct tcccaatcat cacatccttc tcacatccta 36	
cacagacctg agcccacagt gtccaccacc ctgtgcaggc cagtcctgct ggtagtgaat 42	
aaagcaat 42	
	•
<210> 15 <211> 282 <212> DNA <213> Homo sapiens	
<pre><400> 15 atgttgaccg agctggagaa agccttgaac tctatcatcg acgtctacca caagtactcc 6</pre>	0
ctgataaagg ggaatttcca tgccgtctac agggatgacc tgaagaaatt gctagagacc 12	
gagtgtcctc agtatatcag gaaaaagggt gcagacgtct ggttcaaaga gttggatatc 18	0
aacactgatg gtgcagttaa cttccaggag ttcctcattc tggtgataaa gatgggcgtg 24	0
gcagcccaca aaaaaagcca tgaagaaagc cacaaagagt ag 28	2
<210> 16 <211> 270 <212> DNA <213> Rattus norvegicus	
<pre><400> 16 atggcaactg aactggagaa ggccttgagc aacgtcattg aagtctacca caattattct 6</pre>	0
ggtataaaag ggaatcacca tgccctctac agggatgact tcaggaaaat ggtcactact 12	0

gagtgccctc agtttgtgca gaataaaaat accgaaagct tgttcaaaga attggacgtc 180
aatagtgaca acgcaattaa cttcgaagag ttccttgcgt tggtgataag ggtgggcgtg 240
gcagctcata aagacagcca caaggagtaa 270
<210> 17 <211> 300 <212> DNA <213> Sus scrofa
<400> 17
atggcaaaaa gacccacaga gactgagcgt tgcattgaat ctctgattgc tattttccaa 60
aagcatgctg gaagggacgg taacaacacg aaaatctcca agaccgagtt cctaattttc 120
atgaatacag agctggctgc cttcacacag aaccagaaag accctggtgt ccttgaccgc 180
atgatgaaga aattggacct cgactctgat gggcagctag atttccaaga atttcttaat 240
cttattggcg gcctggccat agcttgccat gactccttta ttaagtctac ccagaagtaa 300
<210> 18 <211> 267 <212> DNA <213> Artificial
<220> <223> Consensus Sequence
<400> 18 atgcacgagg agagcatgaa tctctgattg ctgttttcca aagtatgctg gaaaggaggg 60
aacaactacc ctctccaaga ctgagttcct gaccttcatg aatacagagc tggctgcctt 120
cacaaagaac cagaaggacc ctggtgtcct tgaccgcatg atgaagaaat tggacctcaa 180
ctgtgatggg cagctagatt tccaagagtt tcttaatcta ttggggctgg ccatagctgc 240
catgatetta actacecaaa gaagtaa 267
Zor
<210> 19 <211> 16 <212> PRT <213> Mus musculus
<400> 19
Cys Gln Ser Pro Ile Phe Val Gly Lys Val Val Asp Pro Thr His Lys 1 10 15
<210> 20 <211> 16 <212> PRT <213> Mus musculus
<400> 20
Cys Ile Ala Cys His Asp Ser Phe Ile Gln Thr Ser Gln Lys Arg Ile 1 15

```
<210> 21
<211> 413
<212> PRT
<213> Mus musculus
<400> 21
Met Thr Pro Ser Ile
1 5
```

Met Thr Pro Ser Ile Ser Trp Gly Leu Leu Leu Leu Ala Gly Leu Cys 1 5 10 15

Cys Leu Val Pro Ser Phe Leu Ala Glu Asp Val Gln Glu Thr Asp Thr 20 25 30

Ser Gln Lys Asp Gln Ser Pro Ala Ser His Glu Ile Ala Thr Asn Leu 35 40 45

Gly Asp Phe Ala Ile Ser Leu Tyr Arg Glu Leu Val His Gln Ser Asn 50 60

Thr Ser Asn Ile Phe Phe Ser Pro Val Ser Ile Ala Thr Ala Phe Ala 65 70 75 80

Met Leu Ser Leu Gly Ser Lys Gly Asp Thr His Thr Gln Ile Leu Glu 85 90 95

Gly Leu Gln Phe Asn Leu Thr Gln Thr Ser Glu Ala Asp Ile His Lys 100 105 110

Ser Phe Gln His Leu Leu Gln Thr Leu Asn Arg Pro Asp Ser Glu Leu 115 120 125

Gln Leu Ser Thr Gly Asn Gly Leu Phe Val Asn Asn Asp Leu Lys Leu 130 135 140

Val Glu Lys Phe Leu Glu Glu Ala Lys Asn His Tyr Gln Ala Glu Val 145 150 155 160

Phe Ser Val Asn Phe Ala Glu Ser Glu Glu Ala Lys Lys Val Ile Asn 165 170 175

Asp Phe Val Glu Lys Gly Thr Gln Gly Lys Ile Val Glu Ala Val Lys 180 185 190

Glu Leu Asp Gln Asp Thr Val Phe Ala Leu Gly Asn Tyr Ile Leu Phe 195 200 205

Lys Gly Lys Trp Lys Lys Pro Phe Asp Pro Glu Asn Thr Glu Glu Ala 210 220

Glu Phe His Val Asp Lys Ser Thr Thr Val Lys Val Pro Met Met Thr 225 230 235 240 Leu Ser Gly Met Leu Asp Val His His Cys Ser Thr Leu Ser Ser Trp 245 250 255 Val Leu Leu Met Asp Tyr Ala Gly Asn Ala Ser Ala Val Phe Leu Leu 260 265 270 Pro Glu Asp Gly Lys Met Gln His Leu Glu Gln Thr Leu Asn Lys Glu 275 280 285 Leu Ile Ser Lys Ile Leu Leu Asn Arg Arg Arg Leu Val Gln Ile 290 295 300 His Ile Pro Arg Leu Ser Ile Ser Gly Glu Tyr Asn Leu Lys Thr Leu 305 310 315 320 Met Ser Pro Leu Gly Ile Thr Arg Ile Phe Asn Asn Gly Ala Asp Leu 325 330 335 Ser Gly Ile Thr Glu Glu Asn Ala Pro Leu Lys Leu Ser Lys Ala Val 340 345 350 His Lys Ala Val Leu Thr Ile Asp Glu Thr Gly Thr Glu Ala Ala 355 360 365 Ala Thr Val Phe Glu Ala Val Pro Met Ser Met Pro Pro Ile Leu Arg 370 375 380 Phe Asp His Pro Phe Leu Phe Ile Ile Phe Glu Glu His Thr Gln Ser 385 390 395 400 Pro Ile Phe Val Gly Lys Val Val Asp Pro Thr His Lys 405 410 <210> 22 <211> 382 <212> **PRT** Rattus norvegicus <400> 22 Ala Pro Ser His Gly Gly Ser Cys Phe Trp Gln Pro Cys Val Ala Trp

10
15 Pro Pro Ala Ser Trp Leu Arg Met Pro Arg Lys Pro Ile Pro Pro Ser 20 25 30 Arg Thr Arg Val Gln Pro Thr Val Arg Phe Leu Gln Thr Trp Gln Thr 35 40 45

Leu Pro Ser Ala Tyr Thr Gly Ser Trp Ser Ile Asn Pro Ile His Pro 50 55 60 Thr Ser Ser Pro Leu Ala Ser Pro Gln Pro Ser Pro Cys Ser Pro 65 70 75 80 Trp Gly Ala Arg Val Thr Leu Ala Asn Arg Phe Arg Ala Trp Ser Ser 85 90 95 Thr Ser His Arg Tyr Leu Arg Leu Thr Ser Thr Arg Pro Ser Ile Thr 100 105 110Ser Ser Lys Leu Ser Thr Gly Gln Thr Val Ser Cys Ser Thr Gln Ala 115 120 125 Met Ala Ser Leu Ser Thr Arg Ile Ser Trp Trp Arg Ser Phe Trp Lys 130 140Arg Ser Arg Thr Ile Thr Thr Gln Lys Pro Ser Leu Ser Thr Leu Pro 145 150 155 160 Thr Gln Lys Arg Leu Arg Lys Leu Met Ile Met Arg Arg Glu Pro Lys Glu Arg Leu Ile Asn Ser Trp Thr Lys Thr Arg Phe Leu Pro Trp Ile 180 185 190 Thr Phe Ser Leu Lys Ala Ser Gly Arg Gly His Ser Ile Leu Ser Thr 195 200 205 Leu Gly Met Leu Thr Phe Thr Thr Ser Pro Pro Gln Arg Cys Pro Thr 210 220 Ala Trp Ala Cys Leu Thr Cys Thr Ile Ala Ala His Cys Pro Ala Gly 225 230 235 240 Cys Trp Ile Thr Trp Ala Thr Pro Leu Pro Ser Ser Ser Cys Pro Met 245 250 255 Met Ala Arg Cys Ser Ile Trp Ser Lys Leu Ser Pro Arg Ile Ser Phe 260 265 270 Pro Gly Ser Cys Thr Gly Lys Gln Gly Gln Pro Phe Ser Thr Ser Pro 275 280 285 Asn Cys Pro Ser Leu Glu Pro Ile Thr Arg His Ser Ala His Trp Ala 290 295 300

Ser Pro Gly Ser Ser Thr Met Met Leu Ile Ser Leu Glu Ser Gln Arg 305 315 Met Pro Pro Ser Leu Ala Arg Leu Cys Ile Arg Leu Cys Pro Met Arg Gly Glu Gln Arg Leu Gln Glu Pro Leu Trp Trp Arg Pro Ser Pro Cys 340 345 350 Leu Cys Pro Leu Lys Ser Ser Thr Thr Leu Ser Phe Ser Leu Asn Gln Lys Leu Arg Ala Pro Ser Leu Trp Glu Lys Ile Pro His Val 370 375 380 <210> 23 417 <211> <212> PRT <213> Homo sapiens <400> 23 Met Pro Ser Ser Val Ser Trp Gly Ile Leu Leu Ala Gly Leu Cys Cys 1 5 10 15 Leu Val Pro Val Ser Leu Ala Glu Asp Pro Gln Gly Asp Ala Ala Gln
20 25 30 Lys Thr Asp Thr Ser His His Asp Gln Asp His Pro Thr Phe Asn Lys
45 Ile Thr Pro Asn Leu Ala Glu Phe Ala Phe Ser Leu Tyr Arg Gln Leu 50 55 60 Ala His Gln Ser Asn Ser Thr Asn Ile Phe Phe Ser Pro Val Ser Ile 65 70 75 80 Ala Thr Ala Phe Ala Met Leu Ser Leu Gly Thr Lys Ala Asp Thr His 85 90 95 Asp Glu Ile Leu Glu Gly Leu Asn Phe Asn Leu Thr Glu Ile Pro Glu Ala Gln Ile His Glu Gly Phe Gln Glu Leu Leu Arg Thr Leu Asn Gln Pro Asp Ser Gln Leu Gln Leu Thr Thr Gly Asn Gly Leu Phe Leu Ser 130 135 140 Glu Gly Leu Lys Leu Val Asp Lys Phe Leu Glu Asp Val Lys Lys Leu

Page 13

Tyr His Ser Glu Ala Phe Thr Val Asn Phe Gly Asp His Glu Glu Ala Lys Lys Gln Ile Asn Asp Tyr Val Glu Lys Gly Thr Gln Gly Lys Ile 180 185 190 Val Asp Leu Val Lys Glu Leu Asp Arg Asp Thr Val Phe Ala Leu Val Asn Tyr Ile Phe Phe Lys Gly Lys Trp Glu Arg Pro Phe Glu Val Lys 210 220 Asp Thr Glu Asp Glu Asp Phe His Val Asp Gln Val Thr Thr Val Lys 235 230 240 Val Pro Met Met Lys Arg Leu Gly Met Phe Asn Ile Gln His Cys Lys 245 250 255 Lys Leu Ser Ser Trp Val Leu Leu Met Lys Tyr Leu Gly Asn Ala Thr $260 \hspace{1.5cm} 265 \hspace{1.5cm} 270$ Ala Ile Phe Phe Leu Pro Asp Glu Gly Lys Leu Gln His Leu Glu Asn Glu Leu Thr His Asp Ile Ile Thr Lys Phe Leu Glu Asn Glu Asp Arg 290 295 300 Arg Ser Ala Ser Leu His Leu Pro Lys Leu Ser Ile Thr Gly Thr Tyr 305 310 315 320 Asp Leu Lys Ser Val Leu Gly Gln Leu Gly Ile Thr Lys Val Phe Ser 325 330 335 Asn Gly Ala Asp Leu Ser Gly Val Thr Glu Glu Ala Pro Leu Lys Leu 340 350 Ser Lys Ala Val His Lys Ala Val Leu Thr Ile Asp Glu Lys Gly Thr 355 360 365 Glu Ala Ala Gly Ala Met Phe Leu Glu Ala Ile Pro Met Ser Ile Pro 370 380 Pro Glu Val Lys Phe Asn Lys Pro Phe Val Phe Leu Met Ile Glu Gln 390 395

Asn Thr Lys Ser Pro Leu Phe Met Gly Lys Val Val Asn Pro Thr Gln 405 410 415

<210> 24

<211> 416

<212> PRT

<213> Ovis aries

<400> 24

Met Ala Leu Ser Ile Thr Arg Gly Leu Leu Leu Leu Ala Ala Leu Cys $1 \hspace{1cm} 10 \hspace{1cm} 15$

Cys Leu Ala Pro Thr Ser Leu Ala Gly Val Leu Gln Gly His Ala Val 20 25 30

Gln Glu Thr Asp Asp Thr Ala His Gln Glu Ala Ala Cys His Lys Ile 35 40 45

Ala Pro Asn Leu Ala Asn Phe Ala Phe Ser Ile Tyr His Lys Leu Ala 50 60

His Gln Ser Asn Thr Ser Asn Ile Phe Phe Ser Pro Val Ser Ile Ala 65 70 75 80

Ser Ala Phe Ala Met Leu Ser Leu Gly Ala Lys Gly Asn Thr His Thr 85 90 95

Glu Ile Leu Glu Gly Leu Gly Phe Asn Leu Thr Glu Leu Ala Glu Ala 100 105 110

Glu Ile His Lys Gly Phe Gln His Leu Leu His Thr Leu Asn Gln Pro 115 120 125

Asn His Gln Leu Gln Leu Thr Thr Gly Asn Gly Leu Phe Ile Asn Glu 130 135 140

Ser Ala Lys Leu Val Asp Thr Phe Leu Glu Asp Val Lys Asn Leu His 145 150 155 160

His Ser Lys Ala Phe Ser Ile Asn Phe Arg Asp Ala Glu Glu Ala Lys 165 170 175

Lys Lys Ile Asn Asp Tyr Val Glu Lys Gly Ser His Gly Lys Ile Val 180 185 190

Asp Leu Val Lys Asp Leu Asp Gln Asp Thr Val Phe Ala Leu Val Asn 195 200 205

Tyr Ile Ser Phe Lys Gly Lys Trp Glu Lys Pro Phe Glu Val Glu His 210 215 220 Thr Thr Glu Arg Asp Phe His Val Asn Glu Gln Thr Thr Val Lys Val 225 230 235 240 Pro Met Met Asn Arg Leu Gly Met Phe Asp Leu His Tyr Cys Asp Lys 245 250 255 Leu Ala Ser Trp Val Leu Leu Leu Asp Tyr Val Gly Asn Val Thr Ala 260 265 270 Cys Phe Ile Leu Pro Asp Leu Gly Lys Leu Gln Gln Leu Glu Asp Lys 275 280 285 Leu Asn Asn Glu Leu Leu Ala Lys Phe Leu Glu Lys Lys Tyr Ala Ser Ser Ala Asn Leu His Leu Pro Lys Leu Ser Ile Ser Glu Thr Tyr Asp 305 310 315 320 Leu Lys Thr Val Leu Gly Glu Leu Gly Ile Asn Arg Val Phe Ser Asn 325 330 335 Gly Ala Asp Leu Ser Gly Ile Thr Glu Glu Gln Pro Leu Met Val Ser Lys Ala Leu His Lys Ala Ala Leu Thr Ile Asp Glu Lys Gly Thr Glu 355 360 365 Ala Ala Gly Ala Thr Phe Leu Glu Ala Ile Pro Met Ser Leu Pro Pro 370 380 Asp Val Glu Phe Asn Arg Pro Phe Leu Cys Ile Leu Tyr Asp Arg Asn 385 390 395 400 Thr Lys Ser Pro Leu Phe Val Gly Lys Val Val Asn Pro Thr Gln Ala 405 410 415 25 353 <210> <211> <212> PRT Mesocricetus auratus <400> 25 Met Lys Pro Ser Ile Ser Trp Gly Ile Leu Leu Leu Ala Gly Leu Cys 1 10 15 Cys Leu Val Pro Ser Phe Leu Ala Glu Asp Ala Gln Glu Thr Asp Ala 20 25 30

Ser Lys Gln Asp Gln Glu His Gln Ala Cys Cys Lys Ile Ala Pro Asn 35 40 45Leu Ala Asp Phe Ser Phe Asn His Asn Leu Leu Gln Thr Phe Asn Arg 50 55 60 Pro Asp Asn Glu Leu Gln Leu Thr Thr Gly Asn Gly Leu Phe Ile His 70 75 80 Asn Asn Leu Lys Leu Val Asp Lys Phe Leu Glu Glu Val Lys Asn Asp 85 90 95 Tyr His Ser Glu Ala Phe Ser Val Asn Phe Thr Asp Ser Glu Glu Ala 100 105 110 Lys Lys Val Ile Asn Gly Phe Val Glu Lys Gly Thr Gln Gly Lys Ile 115 120 125 Val Asp Leu Val Lys Asp Leu Asp Lys Asp Thr Val Leu Ala Leu Val 130 135 140 Asn Tyr Ile Phe Phe Lys Gly Lys Trp Lys Lys Pro Phe Asp Ala Asp 145 150 155 160 Asn Thr Glu Glu Ala Asp Phe His Val Asp Lys Thr Thr Thr Val Lys
165 170 175 Val Pro Met Met Ser Arg Leu Gly Met Phe Asp Val His Tyr Val Ser 180 185 190 Thr Leu Ser Ser Trp Val Leu Leu Met Asp Tyr Leu Gly Asn Ala Thr 195 200 205 Ala Ile Phe Ile Leu Pro Asp Asp Gly Lys Met Gln His Leu Glu Gln 210 220 Thr Leu Asn Lys Glu Ile Ile Gly Lys Phe Leu Lys Asp Arg His Thr 225 230 Arg Ser Ala Asn Val His Phe Pro Lys Leu Ser Ile Ser Gly Thr Tyr 255 Asn Leu Lys Thr Ala Leu Asp Pro Leu Gly Ile Thr Gln Val Phe Ser 260 265 270 Asn Gly Ala Asp Leu Ser Gly Ile Thr Glu Asp Val Pro Leu Lys Leu 275 280 285 Gly Lys Ala Val His Lys Ala Val Leu Thr Ile Asp Glu Arg Gly Thr 290 295 300

Glu Ala Ala Gly Ala Thr Phe Met Glu Ile Ile Pro Met Ser Val Pro 305 310 315 320

Pro Glu Val Asn Phe Asn Ser Pro Phe Ile Ala Ile Ile Tyr Asp Arg 325 330 335

Gln Thr Ala Lys Ser Pro Leu Phe Val Gly Lys Val Val Asp Pro Thr 340 345 350

Arg

<210> 26

<211> 413

<212> PRT

<213> Oryctolagus cuniculus

<400> 26

Met Pro Pro Ser Val Ser Arg Ala Leu Leu Leu Leu Ala Gly Leu Gly $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Cys Leu Leu Pro Gly Phe Leu Ala Asp Glu Ala Gln Glu Thr Ala Val 20 25 30

Ser Ser His Glu Gln Asp Arg Pro Ala Cys His Arg Ile Ala Pro Ser 35 40 45

Leu Val Glu Phe Ala Leu Ser Leu Tyr Arg Glu Val Ala Arg Glu Ser 50 60

Asn Thr Thr Asn Ile Phe Phe Ser Pro Val Ser Ile Ala Leu Ala Phe 65 70 75 80

Ala Met Leu Ser Leu Gly Ala Lys Gly Asp Thr His Thr Gln Val Leu 85 90 95

Glu Gly Leu Lys Phe Asn Leu Thr Glu Thr Ala Glu Ala Gln Ile His $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$

Asp Gly Phe Arg His Leu Leu His Thr Val Asn Arg Pro Asp Ser Glu 115 120 125

Leu Gln Leu Ala Ala Gly Asn Ala Leu Val Val Ser Glu Asn Leu Lys 130 135 140

Leu Gln His Lys Phe Leu Glu Asp Ala Lys Asn Leu Tyr Gln Ser Glu Page 18

160

Ala Phe Leu Val Asp Phe Arg Asp Pro Glu Gln Ala Lys Thr Lys Ile 165

Asn Ser His Val Glu Lys Gly Thr Arg Gly Lys Ile Val Asp Leu Val 180

150

145

Gln Glu Leu Asp Ala Arg Thr Leu Leu Ala Leu Val Asn Tyr Val Phe 195 200 205

Phe Lys Gly Lys Trp Glu Lys Pro Phe Glu Pro Glu Asn Thr Lys Glu 210 220

Glu Asp Phe His Val Asp Ala Thr Thr Thr Val Arg Val Pro Met Met 225 230 235 240

Ser Arg Leu Gly Met Tyr Val Met Phe His Cys Ser Thr Leu Ala Ser 245 250 255

Thr Val Val Leu Met Asp Tyr Lys Gly Asn Ala Thr Ala Leu Phe Leu 260 265 270

Leu Pro Asp Glu Gly Lys Leu Gln His Leu Glu His Thr Leu Thr Thr 275 280 285

Glu Leu Ile Ala Lys Phe Leu Ala Lys Ser Ser Phe Arg Ser Val Thr 290 295 300

Val Arg Phe Pro Lys Leu Ser Ile Ser Gly Thr Tyr Asp Leu Lys Pro 305 310 315 320

Leu Leu Gly Lys Leu Gly Ile Thr Gln Val Phe Ser Asp Asn Ala Asp 325 330 335

Leu Ser Gly Ile Thr Glu Gln Glu Ala Leu Lys Val Ser Gln Ala Leu 340 345 350

His Lys Val Val Leu Thr Ile Asp Glu Arg Gly Thr Glu Ala Ala Gly 355 360 365

Ala Thr Phe Val Glu Tyr Val Leu Tyr Ser Met Pro Gln Arg Val Thr 370 375 380

Phe Asp Arg Pro Phe Leu Phe Val Ile Tyr Ser His Glu Val Lys Ser 385 390 395 400

Pro Leu Phe Val Gly Lys Val Val Asp Pro Thr Gln His 405

<210> 27

<211> 391 <212> PRT

<213> Artificial

<220>

<223> Consensus Sequence

<400> 27

Met Pro Ser Ile Ser Gly Leu Leu Leu Leu Ala Gly Leu Cys Cys Leu $10 \ 15$

Val Pro Ser Phe Leu Ala Glu Asp Gln Glu Thr Asp Ser His Asp Gln 20 25 30

Asp Pro Ala Cys His Lys Ile Ala Pro Asn Leu Ala Asp Phe Ala Phe 35 40 45

Ser Leu Tyr Arg Glu Leu Ala His Gln Ser Asn Thr Thr Asn Ile Phe 50 60

Phe Ser Pro Val Ser Ile Ala Thr Ala Phe Ala Met Leu Ser Leu Gly 70 75 80

Thr Lys Gly Asp Thr His Thr Gln Ile Leu Glu Gly Leu Phe Asn Leu 85 90 95

Thr Glu Thr Ala Glu Ala Glu Ile His Lys Gly Phe Gln His Leu Leu 100 105 110

Thr Leu Asn Arg Pro Asp Ser Glu Leu Gln Leu Thr Thr Gly Asn Gly 115 120 125

Leu Phe Ile Ser Glu Leu Lys Leu Val Asp Lys Phe Leu Glu Asp Val 130 135 140

Lys Asn Leu Tyr His Ser Glu Ala Phe Ser Val Asn Phe Asp Ser Glu 145 150 155 160

Glu Ala Lys Lys Ile Asn Asp Phe Val Glu Lys Gly Thr Gln Gly Lys
165 170 175

Ile Val Asp Leu Val Lys Glu Leu Asp Lys Asp Thr Val Leu Ala Leu 180 185 . 190

Val Asn Tyr Ile Phe Phe Lys Gly Lys Trp Glu Lys Pro Phe Glu Val 195 200 205

Glu Asn Thr Glu Glu Asp Phe His Val Asp Thr Thr Val Lys Val Page 20 Pro Met Met Ser Arg Leu Gly Met Phe Asp Val His His Cys Ser Thr 225 230 235 240

Leu Ser Ser Trp Val Leu Leu Met Asp Tyr Leu Gly Asn Ala Thr Ala 245 250 255

Ile Phe Ile Leu Pro Asp Asp Gly Lys Leu Gln His Leu Glu Gln Thr 260 265 270

Leu Asn Glu Leu Ile Ala Lys Phe Leu Asn Arg Arg Ser Ala Ser Leu 275 280 285

His Leu Pro Lys Leu Ser Ile Ser Gly Thr Tyr Asp Leu Lys Thr Leu 290 295 300

Leu Gly Leu Gly Ile Thr Arg Val Phe Ser Asn Gly Ala Asp Leu Ser 305 310 315 320

Gly Ile Thr Glu Glu Pro Leu Lys Leu Ser Lys Ala Val His Lys Ala 325 330 335

Val Leu Thr Ile Asp Glu Lys Gly Thr Glu Ala Ala Gly Ala Thr Phe 340 345 350

Leu Glu Ala Ile Pro Met Ser Met Pro Pro Glu Val Phe Asn Arg Pro 355 360 365

Phe Leu Phe Ile Ile Tyr Asp Asn Thr Lys Ser Pro Leu Phe Val Gly 370 380

Lys Val Val Asp Pro Thr Gln 385 390

<210> 28

<211> 98

<212> PRT

<213> Mus musculus

<400> 28

Met Pro Thr Glu Thr Glu Arg Cys Ile Glu Ser Leu Ile Ala Val Phe $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Gln Lys Tyr Ser Gly Lys Asp Gly Asn Asn Thr Gln Leu Ser Lys Thr 20 25 30

Glu Phe Leu Ser Phe Met Asn Thr Glu Leu Ala Ala Phe Thr Lys Asn 35 40 45

Gln Lys Asp Pro Gly Val Leu Asp Arg Met Met Lys Lys Leu Asp Leu 50 60

Asn Cys Asp Gly Gln Leu Asp Phe Gln Glu Phe Leu Asn Leu Ile Gly 65 70 75 80

Gly Leu Ala Ile Ala Cys His Asp Ser Phe Ile Gln Thr Ser Gln Lys 85 90 95

Arg Ile

<210> 29

<211> 90

<212> PRT

<213> Canis familiaris

<400> 29

Thr Arg Ser Leu Ile Ala Val Phe Gln Lys Phe Ala Gly Lys Glu Gly 10 15

Asn Asn Cys Thr Leu Ser Lys Thr Glu Phe Leu Thr Phe Met Asn Thr 20 25 30

Glu Leu Ala Ala Phe Thr Lys Asn Gln Lys Asp Pro Gly Val Leu Asp 35 40 45

Arg Met Met Lys Lys Leu Asp Leu Asn Ser Asp Gly Gln Leu Asp Phe 50 60

Gln Glu Phe Leu Asn Leu Ile Gly Gly Met Ala Ile Ala Cys His Asp 65 70 75 80

Ser Phe Thr Arg Ser Pro His Phe Arg Lys 85 90

<210> 30

<211> 61

<212> PRT

<213> Oryctolagus cuniculus

<400> 30

Phe Ala Val Phe Gln Lys Tyr Ala Gly Lys Asp Gly His Ser Val Thr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Leu Ser Lys Thr Glu Phe Leu Ser Phe Met Asn Thr Glu Leu Ala Ala 20 25 30

Phe Thr Lys Asn Gln Lys Asp Pro Gly Val Leu Asp Arg Met Met Lys 35 40 45

Lys Leu Asp Leu Asn Ser Asp Gly Gln Leu Asp Phe Gln 50 60

<210> 31

<211> 93

<212> PRT

<213> Homo sapiens

<400> 31

Met Leu Thr Glu Leu Glu Lys Ala Leu Asn Ser Ile Ile Asp Val Tyr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

His Lys Tyr Ser Leu Ile Lys Gly Asn Phe His Ala Val Tyr Arg Asp 20 25 30

Asp Leu Lys Lys Leu Leu Glu Thr Glu Cys Pro Gln Tyr Ile Arg Lys 35 40 45

Lys Gly Ala Asp Val Trp Phe Lys Glu Leu Asp Ile Asn Thr Asp Gly 50 60

Ala Val Asn Phe Gln Glu Phe Leu Ile Leu Val Ile Lys Met Gly Val 65 70 75 80

Ala Ala His Lys Lys Ser His Glu Glu Ser His Lys Glu 85 90

<210> 32

<211> 89

<212> PRT <213> Rattus norvegicus

<400> 32

Met Ala Thr Glu Leu Glu Lys Ala Leu Ser Asn Val Ile Glu Val Tyr 1 5 10 15

His Asn Tyr Ser Gly Ile Lys Gly Asn His His Ala Leu Tyr Arg Asp 20 25 30

Asp Phe Arg Lys Met Val Thr Thr Glu Cys Pro Gln Phe Val Gln Asn 35 40 45

Lys Asn Thr Glu Ser Leu Phe Lys Glu Leu Asp Val Asn Ser Asp Asn 50 55 60

Ala Ile Asn Phe Glu Glu Phe Leu Ala Leu Val Ile Arg Val Gly Val 65 70 75 80

Ala Ala His Lys Asp Ser His Lys Glu

<210> 33

<211> 99 <212> PRT

<213> Sus scrofa

<400> 33

Met Ala Lys Arg Pro Thr Glu Thr Glu Arg Cys Ile Glu Ser Leu Ile $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Ala Ile Phe Gln Lys His Ala Gly Arg Asp Gly Asn Asn Thr Lys Ile $20 \hspace{1cm} 25 \hspace{1cm} 30$

Ser Lys Thr Glu Phe Leu Ile Phe Met Asn Thr Glu Leu Ala Ala Phe 35 40 45

Thr Gln Asn Gln Lys Asp Pro Gly Val Leu Asp Arg Met Met Lys Lys 50 55 60

Leu Asp Leu Asp Ser Asp Gly Gln Leu Asp Phe Gln Glu Phe Leu Asn 65 70 75 80

Leu Ile Gly Gly Leu Ala Ile Ala Cys His Asp Ser Phe Ile Lys Ser 85 90 95

Thr Gln Lys

<210> 34

<211> 88

<212> PRT

<213> Artificial

<220>

<223> Consensus Sequence

<400> 34

Met Thr Glu Glu Lys Ile Ser Leu Ile Ala Val Phe Gln Lys Tyr Ala 1 10 15

Gly Lys Asp Gly Asn Asn Leu Ser Lys Thr Glu Phe Leu Ser Phe Met $\overset{\circ}{20}$ 25 30

Asn Thr Glu Leu Ala Ala Phe Thr Lys Asn Gln Lys Asp Pro Gly Val 35 40 45

Leu Asp Arg Met Met Lys Lys Leu Asp Leu Asn Ser Asp Gly Gln Leu 50 60

Asp Phe Gln Glu Phe Leu Asn Leu Ile Gly Gly Leu Ala Ile Ala Cys Page 24 His Asp Ser Phe Lys Ser Ser Lys